What is claimed is:

1. A variable displacement compressor, wherein a piston is accommodated in a cylinder bore in a housing, wherein a drive shaft is rotatably supported by the housing, wherein a rotor is provided to the drive shaft such that the rotor rotates integrally with the drive shaft, wherein a cam plate is supported slidably and tiltably by the drive shaft, wherein a hinge mechanism is provided between the rotor and cam plate, wherein rotation of the drive shaft is converted into reciprocation of the pistons through the rotor, the hinge mechanism, and the cam plate, and wherein the cam plate is slid on the drive shaft by the guidance of the hinge mechanism to change the displacement of the compressor, the compressor being characterized in that:

the hinge mechanism comprises a first hinge portion extending from a first member, the first member being one of the rotor and the cam plate, toward a second member, the second member being the other one of the rotor and the cam plate, and a second hinge portion extending from the second member toward the first member, wherein one of the first hinge portion and the second hinge portions includes at least two wall portions, and the other is a protruding portion inserted between two wall portions, wherein the wall portions have facing surfaces facing each other, wherein the protruding portion has a couple of facing surfaces each of which faces the facing surface of one of the wall portions, wherein one of the facing surfaces of the protruding portion two-dimensionally abuts against one of the facing surfaces of the wall portions such that power is transferred between the rotor and the cam plate, and

wherein a thin-walled portion is provided in at least one of the facing surfaces.

2. The variable displacement compressor according to claim

1, wherein an axial load receiving portion is provided in a base of the first hinge portion, wherein the axial load receiving portion slidably abuts against an end of the second hinge portion, thereby receiving an axial load acting on the cam plate, and wherein the thin-walled portion is provided at a part of the first hinge portion that corresponds to a vicinity of a distal end of the second hinge portion.

3. The variable displacement compressor according to claim 2, wherein the thin-walled portion is extended in a groove-like shape along a moving locus of a distal end of the second hinge portion relative to the axial load receiving portion such that the thin-walled portion corresponds to relative movement between the distal end of the second hinge portion and the axial load receiving portion, which relative movement accompanies a tilt of the cam plate.

4. The variable displacement compressor according to claim 1, wherein an axial load receiving portion is provided in a base of the first hinge portion, wherein the axial load receiving portion slidably abuts against a distal end of the second hinge portion, thereby receiving an axial load acting on the cam plate, and wherein the thin-walled portion is provided at a vicinity of the distal end of the second hinge portion.

5. The variable displacement compressor according to claim 4, wherein a facing surface having the thin-walled portion includes a first plane and a second plane, the first plane two-dimensionally abutting against a facing surface of the first hinge portion facing the facing surface, and the second plane being connected to the first plane and located closer to the vicinity of the distal end of the second hinge portion than the first plane, wherein the second plane is inclined relative to the first plane, and a distance between the

second plane and a facing surface of the first hinge portion that faces the second plane becomes larger toward the distal end of the second hinge portion.

6. The variable displacement compressor according to claim 5, wherein the inclination angle of the second plane relative to the first plane is 1° or more.

7. The variable displacement compressor according to claim 5 or 6, wherein the distal end of the second hinge portion includes a cylindrical face having an axis, the axis being perpendicular to a first imaginary plane that contains the first plane, wherein a salient portion between the cylindrical face and a facing surface having the thin-walled portion is chamfered, and wherein an inclination angle of the second plane relative to the first plane is set within a range in which a second imaginary plane that contains the second plane does not intersect the cylindrical face.

8. The variable displacement compressor according to any one of claims 2 to 7, wherein the thin-walled portion is provided in at least one of the facing surfaces abutting against each other so as to enable power transfer between the rotor and the cam plate.

9. The variable displacement compressor according to claim 8, wherein the thin-walled portion is provided in at least one of the facing surfaces that is not related to power transfer between the rotor and the cam plate.

10. The variable displacement compressor according to any one of claims 2 to 9, wherein the axial load receiving portion and the distal end of the second hinge portion are covered with coating films of a solid lubricant, respectively.

11. The variable displacement compressor according to any one of claims 1 to 10, wherein the facing surfaces are covered with coating films of a solid lubricant, respectively.

12. The variable displacement compressor according to any one of claims 1 to 11, wherein a hardening treatment is applied to the hinge mechanism limited to a portion containing abutting parts of the first hinge portion and the second hinge portion.

13. The variable displacement compressor according to any one of claims 1 to 12, wherein a clearance that is a value obtained by subtracting a distance between the facing surfaces of the protruding portion from a distance between the facing surfaces of the wall portions is set within a range between 0.01 mm and 0.20 mm, inclusive.

14. The variable displacement compressor according to claim 13, wherein the clearance is set within a range between 0.03 mm and 0.11 mm, inclusive.

15. The variable displacement compressor according to any one of claims 1 to 14, further comprising aligning means for aligning the cam plate with an axis of the drive shaft.